



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION IV
1600 E. LAMAR BLVD.
ARLINGTON, TX 76011-4511

August 25, 2016

Mr. Vin Fallacara, Acting Site Vice President
Entergy Operations, Inc.
Grand Gulf Nuclear Station
P.O. Box 756
Port Gibson, MS 39150

SUBJECT: GRAND GULF NUCLEAR STATION - NOTIFICATION OF NRC TRIENNIAL HEAT SINK PERFORMANCE INSPECTION (05000416/2016003) AND REQUEST FOR INFORMATION

Dear Mr. Fallacara:

The purpose of this letter is to notify you that U.S. Nuclear Regulatory Commission (NRC) staff will conduct a triennial heat sink performance inspection at your Grand Gulf Nuclear Station from September 19, 2016 to September 23, 2016. The inspection will consist of one reactor inspector from the NRC's Region IV office for one week. The inspection will be conducted in accordance with NRC Inspection Procedure 71111.07, "Heat Sink Performance."

Experience has shown that this inspection is resource intensive both for the NRC inspectors and your staff. In order to minimize the impact to your on-site resources and to ensure a productive inspection, we have enclosed a request for documents needed for this inspection. Please note that the documents are requested to be provided by September 12, 2016. We request that during the on-site inspection week, you ensure that copies of analyses, evaluations, or documentation regarding the implementation and maintenance of your heat exchanger program are available. Of specific interest are those documents that establish that your heat exchanger program satisfies NRC regulatory requirements and conforms to applicable NRC guidance. Also, appropriate personnel knowledgeable of safety-related heat exchangers should be available to support the inspector at the site during the inspection.

We have discussed the schedule for this inspection activity with your staff and understand that our regulatory contact for this inspection will be Taylor Coles of your licensing organization. If there are any questions about this inspection or the material requested, please contact the inspector, Jim Drake, by telephone at 817-200-1558 or by e-mail at James.Drake@nrc.gov.

This letter does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget, control number 3150-0011. The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid Office of Management and Budget control number.

V. Fallacara

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In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice and Procedure," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Thomas R. Farnholtz, Chief
Engineering Branch 1
Division of Reactor Safety

Docket No. 50-416
License No. NPF-29

Enclosure:
Triennial Heat Sink Performance Inspection Request for Information

cc: Electronic Distribution

V. Fallacara

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SIGNATURE	/RA/	/RA/			
DATE	8/24/2016	8/25/2016			

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Letter to Vin Fallacara from Thomas R. Farnholtz, dated August 25, 2016

SUBJECT: GRAND GULF NUCLEAR STATION - NOTIFICATION OF NRC TRIENNIAL HEAT SINK PERFORMANCE INSPECTION (05000416/2016003) AND REQUEST FOR INFORMATION

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**Request for Information
Triennial Heat Sink Performance Inspection
Grand Gulf Nuclear Station**

Inspection Report: 05000416/2016003
Inspection Dates: September 19 - 23, 2016
Inspection Procedure: IP 71111.07, Triennial Heat Sink Performance
Inspector: Jim Drake, Senior Reactor Inspector

Information Requested for the In-Office Preparation Week

The following information should be sent to the Region IV office in hard copy or electronic format (Certrec IMS preferred), to the attention of Jim Drake, by September 12, 2016. The inspector will select specific items from the information requested below and then request from your staff additional documents needed during the onsite inspection week. Also, we request that you categorize the documents in your response with the numbered list below. Please provide requested documentation electronically if possible. If requested documents are large and only hard copy formats are available, please inform the inspector, and provide subject documentation during the first day of the onsite inspection. If you have any questions regarding this information request, please call the lead inspector as soon as possible.

The following heat exchangers/heat sinks have been selected for inspection:

- Diesel Generator 1, jacket water and lube oil heat exchanger
- Turbine building cooling water heat exchangers A, B, C
- ESF room coolers

<u>Room Cooler</u>	<u>Room</u>	<u>Division</u>	<u>Type</u>
Q1T46B002A-A	1A219	1	B
QT46B003A-A	1A309	1	B
Q1T46B002B-B	1A221	2	B
Q1T46B003B-B	1A308	2	B

Please provide the requested information for each of these coolers. Based on the information provided, the final component selection will be made.

For all Generic Letter 89-13 exchangers:

1. List of corrective action program documents (with a short description) associated with Generic Letter 89-13 heat exchangers, heat sinks, silting, corrosion, fouling, heat exchanger cavitation, or heat exchanger testing, in the previous three years

Enclosure

2. System health report(s) and maintenance rule system notebooks for all the Generic Letter 89-13 heat exchangers
3. Copy of any self-assessments done on any Generic Letter 89-13 heat exchangers in the previous three years
4. Copies of any procedures developed to implement the recommendations of Generic Letter 89-13, e.g., the Generic Letter 89-13 Heat Exchanger Program description
5. Copies of any commitments to the Generic Letter 89-13 program

For the specific heat exchangers selected:

Testing Documents

6. Copies of the two most recent completed tests confirming thermal performance for those heat exchangers which are performance tested
7. Instrument uncertainties of the instruments used during testing
8. Copy of any operability determinations or other documentation of degradation associated with the heat exchangers or the systems that support the operation for the selected heat exchangers
9. Documents that show the as-found results are recorded, evaluated, and appropriately dispositioned such that the as-left condition is acceptable

Cleaning Documents

10. The cleaning and inspection maintenance schedule for each heat exchanger for the next five years
11. Copy of the document describing the inspection results for the last two cleaning and inspection activities completed on each heat exchanger
12. Cleaning procedures with acceptance criteria for the selected heat exchangers
13. Copies of the documents that verify the structural integrity of the heat exchanger, e.g., eddy current summary sheets, ultrasonic testing results, and visual inspection results
14. Copies of those documents that describe the methods taken to control water chemistry in the heat exchangers

Design Documents

15. Copies of the design basis documents and updated final safety analysis report pages for the selected heat exchangers
16. Provide a list of calculations with a description which currently apply to each heat exchanger
17. Copies of vendor data sheets and design basis data for the selected heat exchangers
18. Copy of the calculation which establishes the limiting (maximum) design basis heat load which is required to be removed by each of these heat exchangers
19. Copy of the calculation which correlates surveillance testing results from these heat exchangers with design basis heat removal capability (e.g., basis for surveillance test acceptance criteria)
20. Copy of the calculations or documents which evaluate the potential for water hammer or excessive tube vibration in the heat exchanger or associated piping
21. Copy of the document which identifies the current number of tubes in service for each heat exchanger and the supporting calculation which establishes the maximum number of tubes which can be plugged in each heat exchanger
22. Copy of the document establishing the repair criteria (plugging limit) for degraded tubes which are identified in each heat exchanger

For the ultimate heat sink or safety-related service water system:

23. Dam inspections that monitor the integrity of the ultimate heat sink (if applicable)
24. Copies of calculations and surveillances that determine the ultimate heat sink reservoir capacity and heat transfer capability (if applicable)
25. Copies of any design changes performed on the ultimate heat sink or safety-related service water system
26. Copies of procedures for a loss of ultimate heat sink or safety-related service water system
27. Copies of inspections and/or maintenance related to macrofouling (silt, mussel shells, debris, etc.) and aquatic life
28. Copies of inspections and/or maintenance related to preventing biotic fouling
29. Copies of procedures and/or test results to survey or monitor interface valves between the safety-related section of the service water system and the nonsafety-related section

30. Copy of the most recent service water flow balance test results, both as-found and as-left

31. History of any thru-wall pipe leaks on the safety-related service water system

Inspector Contact Information:

Jim Drake
Senior Reactor Inspector
817-200-1558
James.Drake@nrc.gov

Mailing Address:

U.S. NRC, Region IV
Attn: Jim Drake
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